

BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWINGS

Figure 1 is a part schematical, part diagrammatical, part cross-sectional representation of a wellbore that produces fluid from a fluid producing strata and discloses the present invention associated therewith in the standby configuration ready to jar;

Figure 2 is an enlarged, broken or composite view of the tool disclosed in Figures 1 and 4 illustrating the proper arrangement of the tool of Figures 2A, 2B, 2C, 2D, 2E, and 2F;

Figures 2A, 2B, 2C, 2D, 2E and 2F, when taken together, set forth an enlarged, detailed, part schematical, part diagrammatical, part cross sectional representation of the invention disclosed in Figures 1, 2, and 3;

Figure 3 is a part schematical, part diagrammatical, part cross-sectional, side view showing the assembled tool of this invention in the alternate extended configuration;

Figure 4 is a hypothetical plot illustrating the dissipation of the stored energy of the tool of the previous figures of the drawings during impact of a jar action.



DETAILED DESCRIPTION OF THE INVENTION

Figures 1 and 2 of the drawings disclose an oil well or borehole 10 within which there is supported a tubing string 12 telescopingly received within a casing 14. Casing 14 is located within the formed borehole 10 that extends from wellhead 18 at the surface 11 of the earth, through a formation or payzone F, and continues on downhole at 14', or might instead curve into payzone F as noted at F2, such as is achieved with directional drilling. Casing 14 is perforated in the usual manner at P or P1.

A wire line tool string 15 has been run into tubing string 12 contained within casing 14 of borehole 10 on an E-line 17, a slick line or wire rope having an electrical conductor therein. Sometime the tool may be run into the borehole on the end of any suitable elongate member, such as a suitable conduit or elongate tendon such as a pipe, a sucker rod string, or most any logical support member suitable for the occasion.

Usually, a wire rope 17 having a suitable insulated electrical conductor therewithin, is used for supporting a tool string 15. A lifting rig 20 can take on any number of different forms and should include a weight indicator connected to determine tension of the wire rope or E-line 17 which is spooled onto a drum with the downhole end of E-line 17 terminating in a rope socket 19 at the up-hole end of a sinker bar 22 of tool string 15. The insulated conductor is electrically connected to continue through a passageway formed in sinker bar 22, through a jar tool 16, made in accordance with the present invention, and to the lowermost apparatus 31 supported by the lower end of jar tool 16, thereby providing transfer of electronic data signals downhole and uphole along E-line 17 that supports tool string 15.

Sometime borehole 10 is relatively straight, as seen in Figure 2. Sometime a borehole is crooked, or is deliberately slanted as illustrated in Figure 1. Most boreholes are crooked and this increases the probability of a string of tools becoming stuck downhole in the borehole, as seen illustrated in Figure 1 at 118, for example.